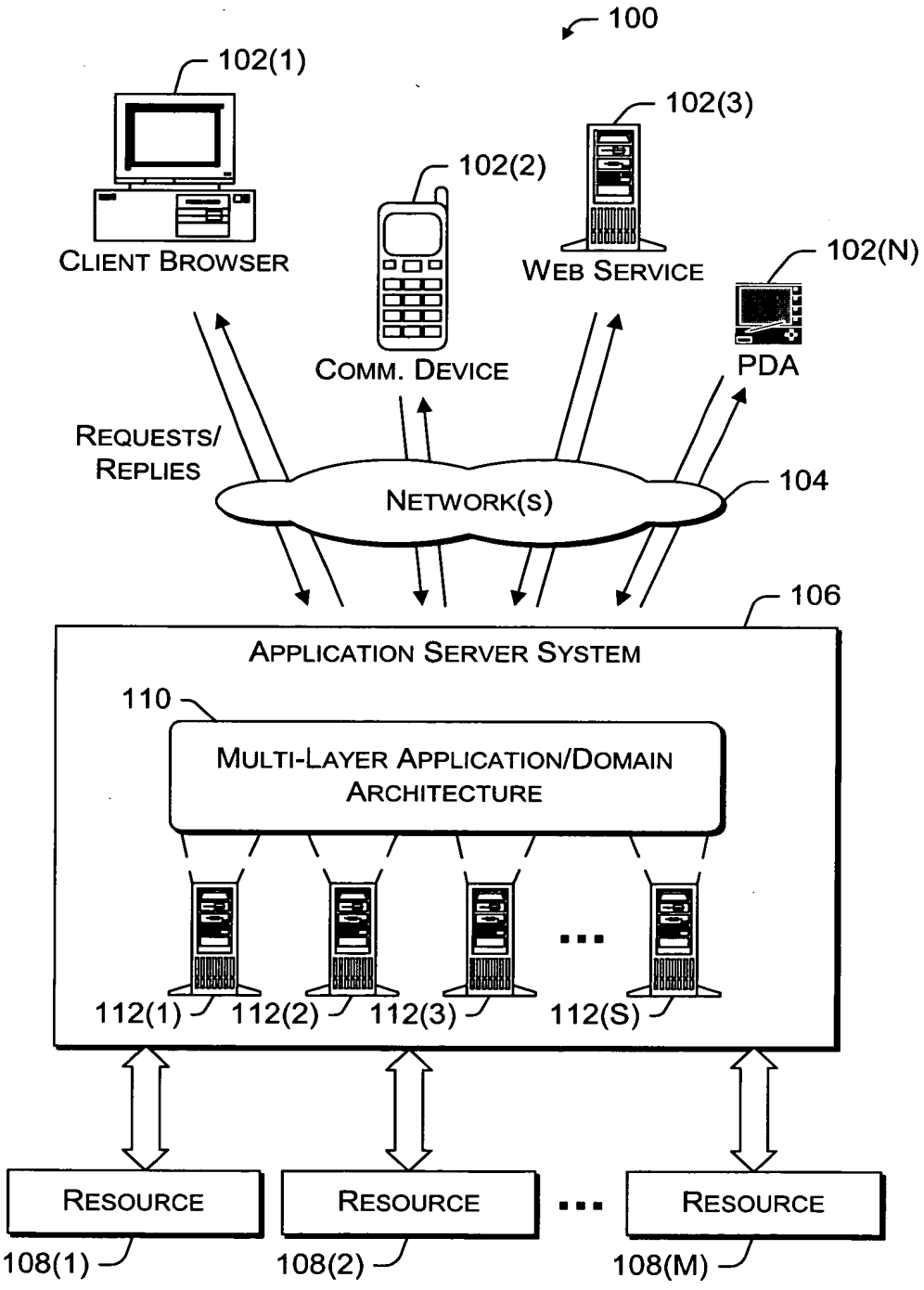
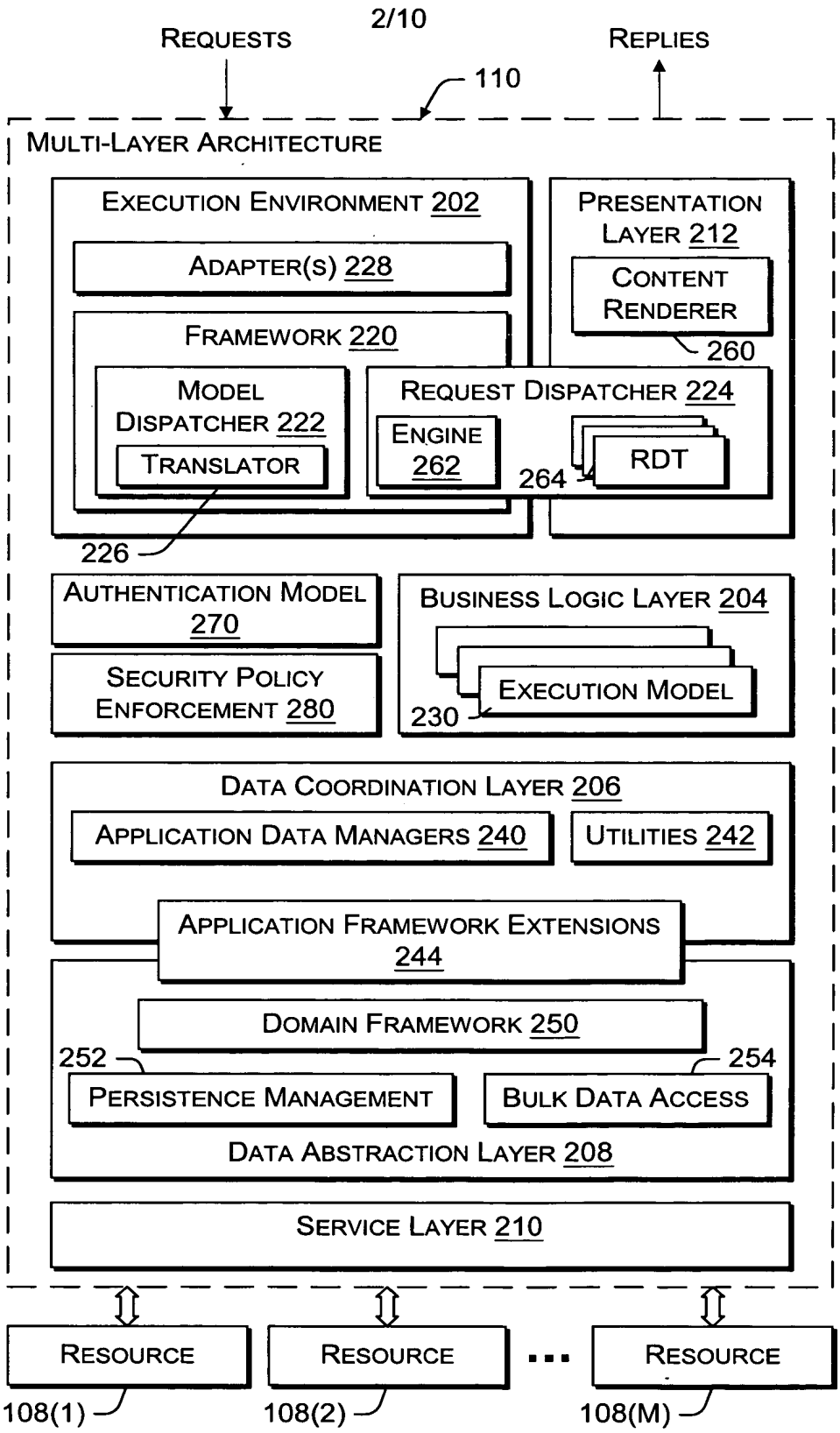

100
102(1)
CLIENT BROWSER
102(2)
COMM. DEVICE
102(3)
WEB SERVICE
102(N)
PDA
REQUESTS/
REPLIES
NETWORK(S)
104
106
APPLICATION SERVER SYSTEM
110
MULTI-LAYER APPLICATION/DOMAIN
ARCHITECTURE
112(1)
112(2)
112(3)
112(S)
RESOURCE
RESOURCE
RESOURCE
108(1)
108(2)
108(M)

Fig. 1


REQUESTS
REPLIES
110
MULTI-LAYER ARCHITECTURE
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ADAPTER(S) 228
FRAMEWORK 220
MODEL DISPATCHER 222
TRANSLATOR
226
REQUEST DISPATCHER 224
ENGINE 262
264
RDT
PRESENTATION LAYER 212
CONTENT RENDERER
260
AUTHENTICATION MODEL 270
SECURITY POLICY ENFORCEMENT 280
BUSINESS LOGIC LAYER 204
EXECUTION MODEL
230
DATA COORDINATION LAYER 206
APPLICATION DATA MANAGERS 240
UTILITIES 242
APPLICATION FRAMEWORK EXTENSIONS 244
DOMAIN FRAMEWORK 250
252
254
PERSISTENCE MANAGEMENT
BULK DATA ACCESS
DATA ABSTRACTION LAYER 208
SERVICE LAYER 210
RESOURCE
RESOURCE
RESOURCE
108(1)
108(2)
108(M)

Fig. 2

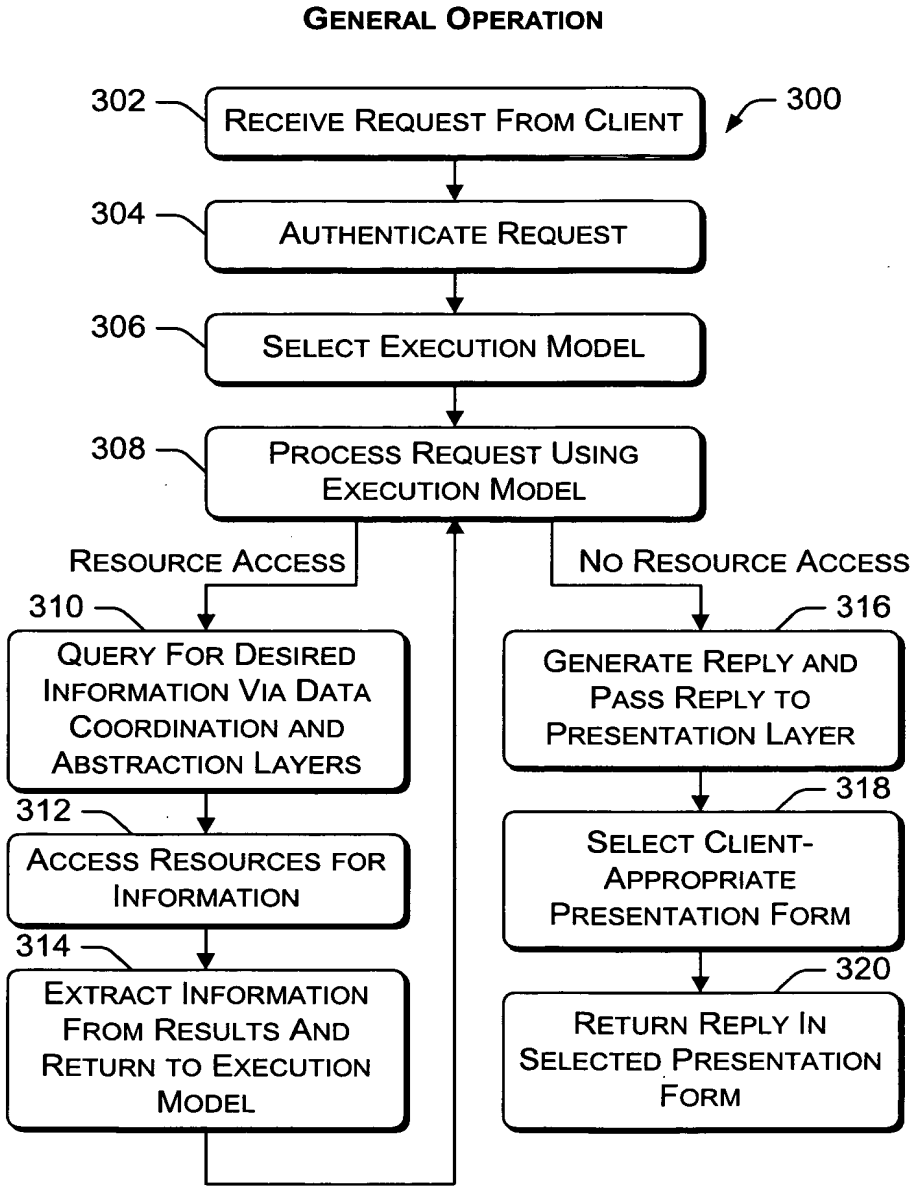
GENERAL OPERATION
302
RECEIVE REQUEST FROM CLIENT
300
304
AUTHENTICATE REQUEST
306
SELECT EXECUTION MODEL
308
PROCESS REQUEST USING EXECUTION MODEL
RESOURCE ACCESS
NO RESOURCE ACCESS
310
QUERY FOR DESIRED INFORMATION VIA DATA COORDINATION AND ABSTRACTION LAYERS
312
ACCESS RESOURCES FOR INFORMATION
314
EXTRACT INFORMATION FROM RESULTS AND RETURN TO EXECUTION MODEL
316
GENERATE REPLY AND PASS REPLY TO PRESENTATION LAYER
318
SELECT CLIENT-APPROPRIATE PRESENTATION FORM
320
RETURN REPLY IN SELECTED PRESENTATION FORM

Fig. 3

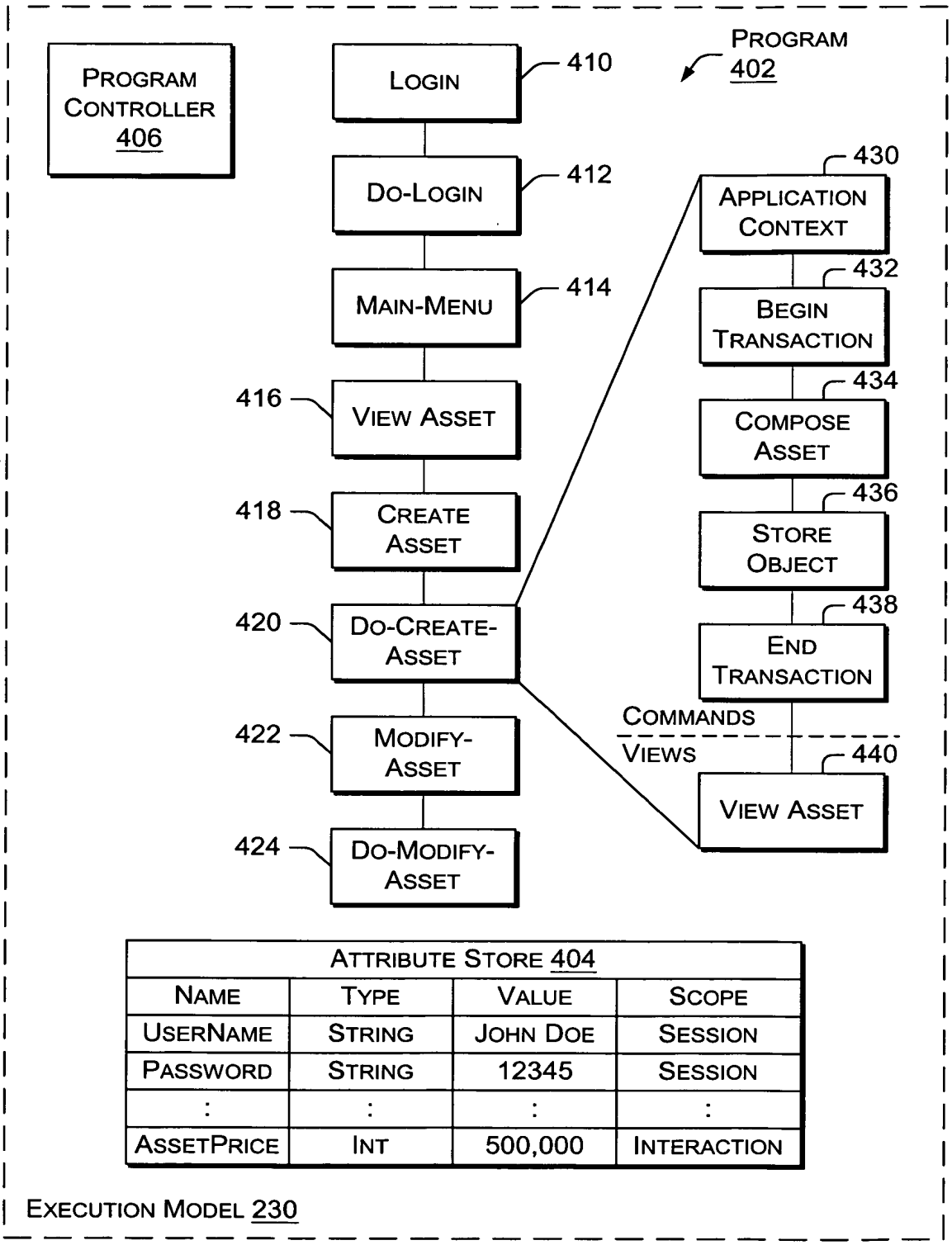
PROGRAM CONTROLLER 406
LOGIN
410
DO-LOGIN
412
MAIN-MENU
414
416
VIEW ASSET
418
CREATE ASSET
420
DO-CREATE-ASSET
422
MODIFY-ASSET
424
DO-MODIFY-ASSET
PROGRAM 402
430
APPLICATION CONTEXT
432
BEGIN TRANSACTION
434
COMPOSE ASSET
436
STORE OBJECT
438
END TRANSACTION
COMMANDS
VIEWS
440
VIEW ASSET
ATTRIBUTE STORE 404
NAME | TYPE | VALUE | SCOPE
USERNAME | STRING | JOHN DOE | SESSION
PASSWORD | STRING | 12345 | SESSION
: | : | : | :
ASSETPRICE | INT | 500,000 | INTERACTION
EXECUTION MODEL 230

Fig. 4

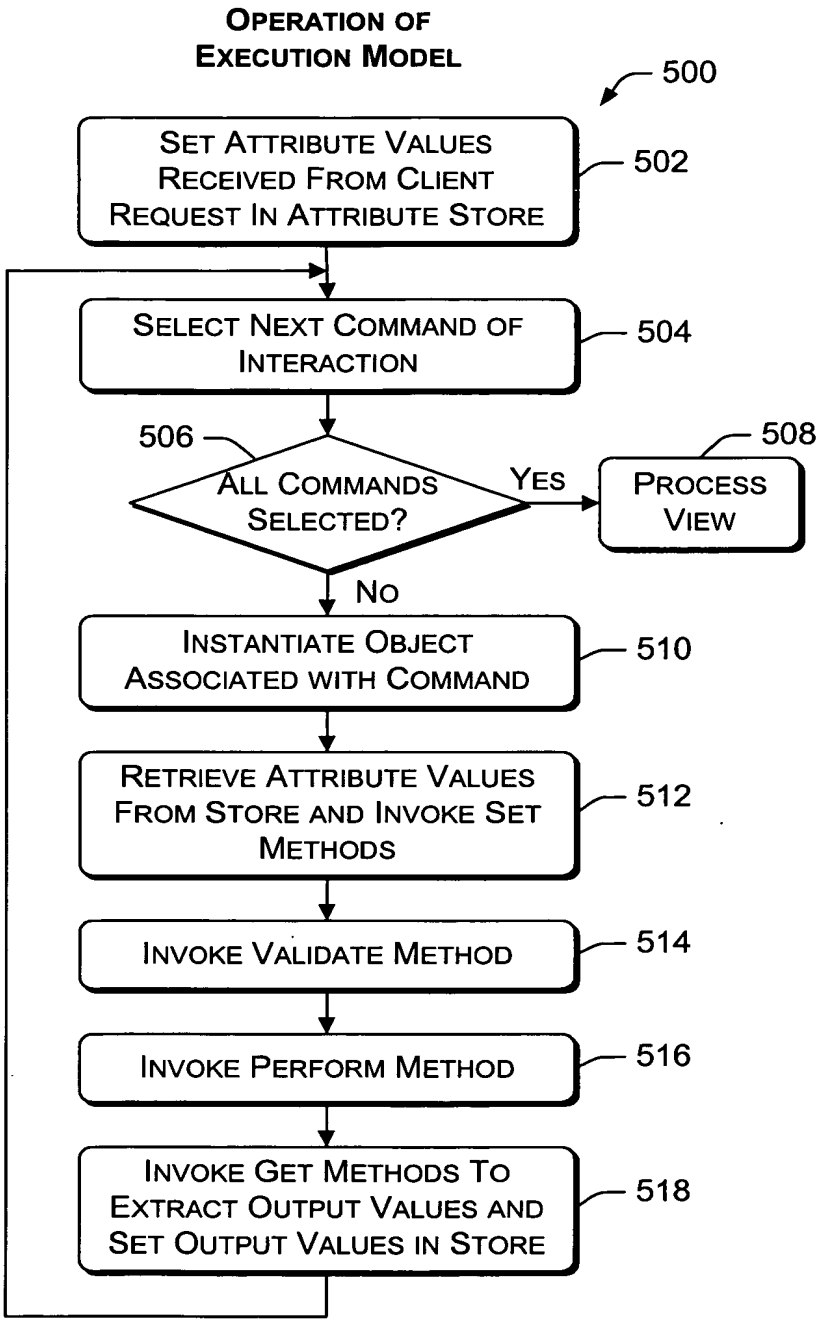
OPERATION OF EXECUTION MODEL
500
SET ATTRIBUTE VALUES RECEIVED FROM CLIENT REQUEST IN ATTRIBUTE STORE
502
SELECT NEXT COMMAND OF INTERACTION
504
506
ALL COMMANDS SELECTED?
YES
508
PROCESS VIEW
NO
INSTANTIATE OBJECT ASSOCIATED WITH COMMAND
510
RETRIEVE ATTRIBUTE VALUES FROM STORE AND INVOKE SET METHODS
512
INVOKE VALIDATE METHOD
514
INVOKE PERFORM METHOD
516
INVOKE GET METHODS TO EXTRACT OUTPUT VALUES AND SET OUTPUT VALUES IN STORE
518

Fig. 5

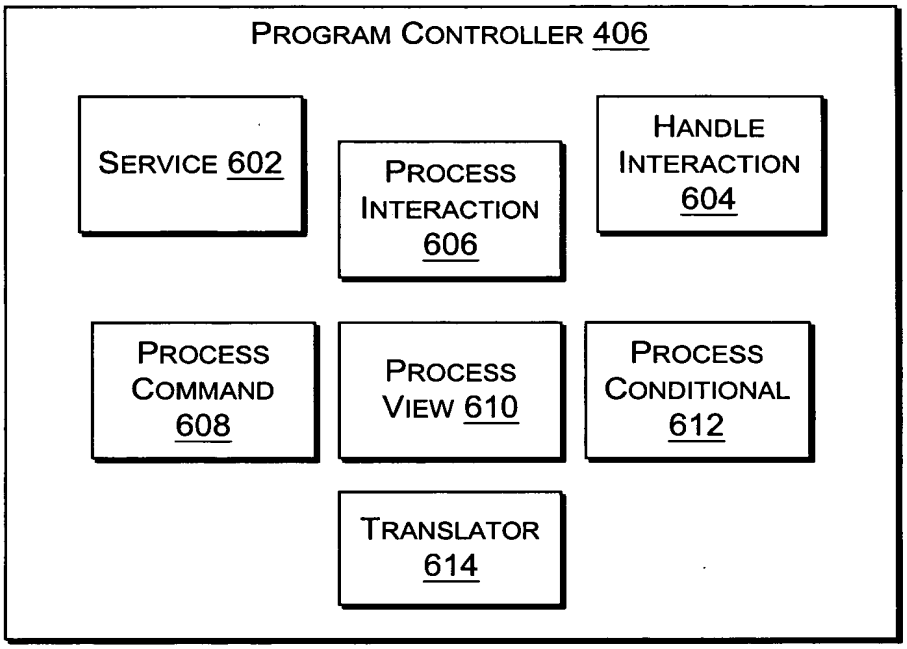
PROGRAM CONTROLLER 406
SERVICE 602
PROCESS INTERACTION 606
HANDLE INTERACTION 604
PROCESS COMMAND 608
PROCESS VIEW 610
PROCESS CONDITIONAL 612
TRANSLATOR 614

Fig. 6

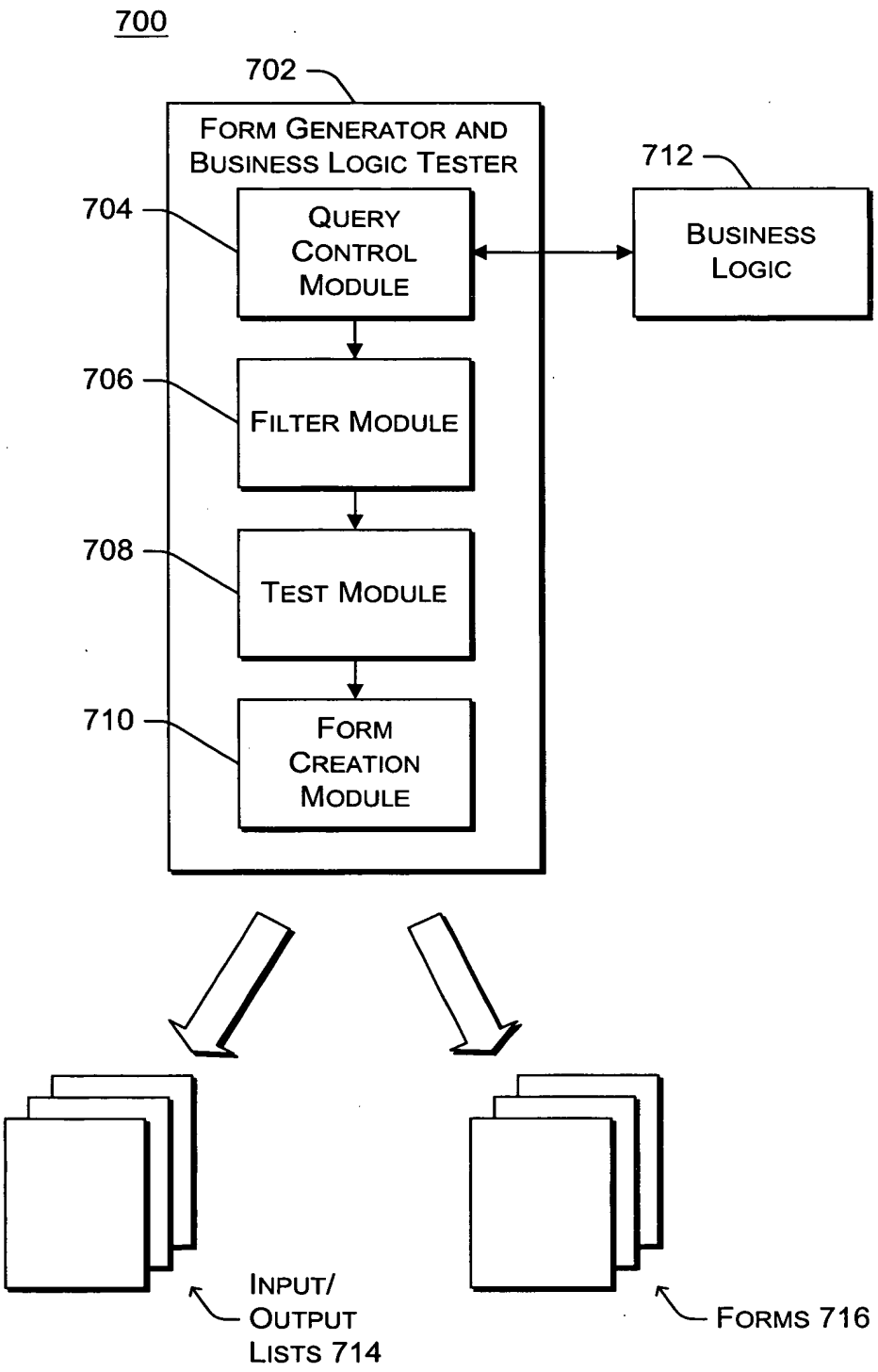

Fig. 7

Docket # 29092 Date: 7/9/2003

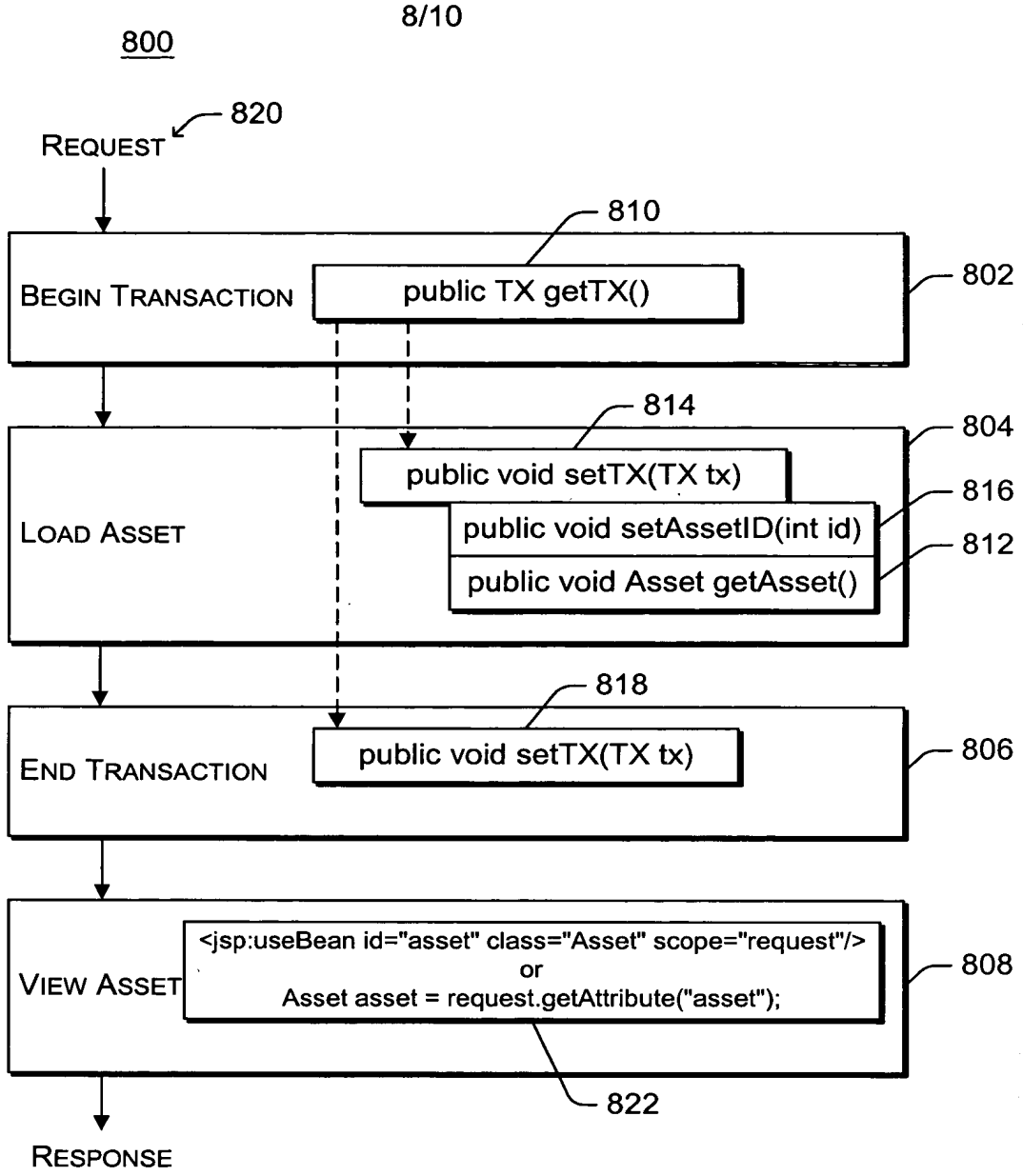

Fig. 8

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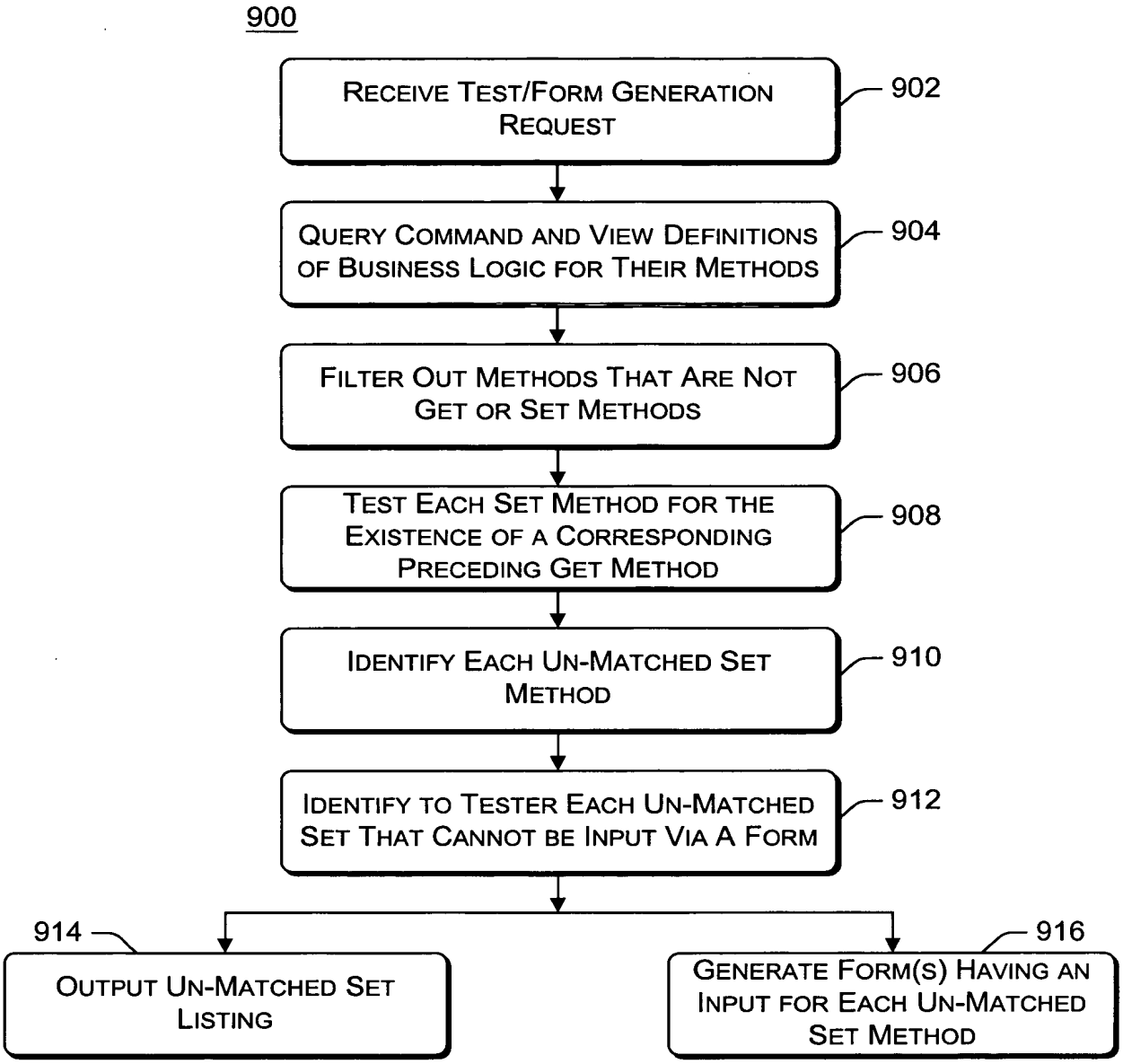

Fig. 9

Doc: 29092.9 Date: 05/25/2006 Time: 03:45:40 PM

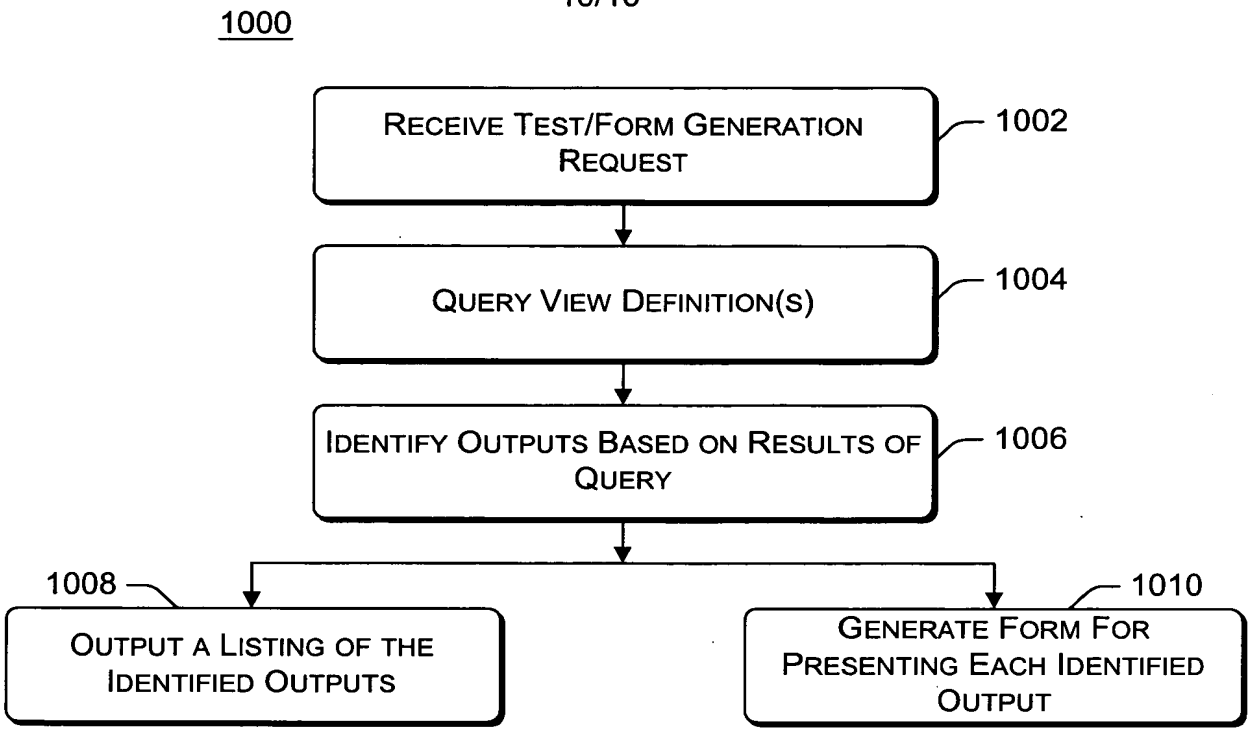
1000
RECEIVE TEST/FORM GENERATION REQUEST
1002
QUERY VIEW DEFINITION(S)
1004
IDENTIFY OUTPUTS BASED ON RESULTS OF QUERY
1006
1008
OUTPUT A LISTING OF THE IDENTIFIED OUTPUTS
1010
GENERATE FORM FOR PRESENTING EACH IDENTIFIED OUTPUT

Fig. 10